

5. Descriptions of new Loricariid Fishes from South America. By C. TATE REGAN, M.A., F.Z.S.

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(Plates XLVII.—XLIX., and Text-figures 206–208.)

The fishes here described are a new *Otocinclus*, five new species of *Plecostomus*, and two new species of *Arges*. Since the publication of my monograph of the Loricariidæ (Trans. Zool. Soc. xvii. 1904) I have written a note\* calling attention to the specific distinctness of *Plecostomus horridus* Kner and *P. tenuicauda* Stdr. from *P. emarginatus* C. & V., with which they had been united; whilst Dr. R. von Ihering† has described four new species, *P. tietensis*, *P. regani*, *P. paulinus*, and *P. hermanni*, from San Paulo, Brazil. Including the five new species described below, four of which have been sent to me by Dr. von Ihering, the known species of the subgenus *Plecostomus* (*i. e.*, with an adipose fin and without opercular bristles) now number 32, instead of the 21 described in my monograph.

PLECOSTOMUS IHERINGII, sp. n. (Plate XLVII. fig. 1.)

Depth of body  $4\frac{2}{3}$  in the length, length of head  $3\frac{1}{2}$ . Depth of head  $1\frac{2}{5}$  in its length, breadth of head  $1\frac{1}{10}$ , length of snout  $1\frac{1}{2}$ , diameter of eye  $6\frac{1}{4}$ , interorbital width  $2\frac{1}{2}$ . About 40 teeth on each side in both jaws; length of mandibular ramus 2 in the interorbital width. Barbel nearly as long as the eye. Snout obtuse, narrowed anteriorly; supraorbital ridges slightly raised; supraoccipital somewhat elevated posteriorly, but without median ridge, bordered posteriorly by a single scute; occipital process short; temporal plates, nuchal scutes and anterior scutes of the second series weakly keeled. Scutes spinulose, 26 in a longitudinal series, 6 between dorsal and adipose fin, 13 between anal and caudal. Lower surface of head naked except for a granular patch in front of each gill-opening; abdomen in great part naked, covered with granular scales laterally and posteriorly; a transverse strip of granular scales between the pectorals. Dorsal I 7, the first ray a little shorter than the head, when laid back extending to the third scute behind the last ray, which is  $\frac{2}{5}$  as long as the first; length of base of dorsal equal to its distance from the posterior part of spine of adipose fin. Anal I 4. Pectoral spine extending to anterior  $\frac{1}{4}$  of ventral fin. Caudal emarginate, the middle rays less than  $\frac{2}{5}$  as long as the longest. Caudal peduncle  $2\frac{3}{4}$  as long as deep. Posterior part of head with transverse stripes; fins dusky, the dorsal with the posterior half of each interradiial membrane darker than the rest.

\* Ann. Mag. Nat. Hist. (7) xvii. 1906, p. 94.

† Ann. Mag. Nat. Hist. (7) xv. 1905, pp. 558–561.

*Hab.* Rio Piracicaba, San Paulo, Brazil.

A single specimen, 150 mm. in total length, received from Dr. R. von Ihering.

*PLECOSTOMUS MARGARITIFER*, sp. n. (Plate XLVII. fig. 2.)

Depth of body  $4\frac{2}{3}$  in the length, length of head  $3\frac{1}{3}$ . Depth of head  $1\frac{3}{4}$  in its length, breadth of head  $1\frac{1}{3}$ , length of snout  $1\frac{3}{4}$ , diameter of eye 6, interorbital width  $2\frac{3}{4}$ . Length of mandibular ramus  $1\frac{4}{5}$  in the interorbital width; 18 to 20 teeth on each side in the upper jaw, 15 to 17 in the lower. Barbel  $\frac{2}{3}$  the diameter of eye. Snout obtuse, narrowed anteriorly; supraorbital edges slightly raised; temporal plates not keeled; supraoccipital slightly convex, bordered posteriorly by a single scute; occipital process short. Scutes spinulose, not carinate, 27 in a longitudinal series, 7 between dorsal and adipose fin, 13 between anal and caudal. Lower surface of head and abdomen naked, except for some small scattered granules. Dorsal I 7; first ray a little longer than the head, when laid back extending to the sixth scute behind the last ray, which is less than  $\frac{1}{2}$  as long as the first. Length of base of dorsal equal to its distance from tip of spine of adipose fin. Anal I 4. Pectoral spine extending to anterior  $\frac{1}{4}$  of ventral fin. Caudal emarginate, the middle rays a little more than  $\frac{3}{5}$  as long as the longest. Caudal peduncle  $2\frac{3}{5}$  as long as deep. Scattered rounded pale spots on head and body; fins dusky, the dorsal with the posterior half of each interradial membrane blackish.

*Hab.* Rio Piracicaba, San Paulo, Brazil.

A single specimen, 160 mm. in total length, received from Dr. R. von Ihering.

*PLECOSTOMUS STRIGATICEPS*, sp. n. (Plate XLVIII. fig. 1.)

Depth of body 5 in the length, length of head  $3\frac{1}{5}$  to  $3\frac{2}{5}$ . Depth of head  $1\frac{2}{3}$  in its length, breadth of head 1 to  $1\frac{1}{4}$ , length of snout  $1\frac{3}{4}$  to  $1\frac{5}{6}$ , diameter of eye 5 to  $5\frac{1}{2}$ , interorbital width  $2\frac{2}{3}$ . Length of mandibular ramus  $1\frac{2}{3}$  in the interorbital width; about 60 teeth on each side in both jaws. Barbel  $\frac{1}{2}$  to  $\frac{2}{3}$  the diameter of eye. Snout broad, rounded; supraorbital edges not or scarcely raised; temporal plates not keeled; supraoccipital slightly convex, without median ridge, bordered posteriorly by 1 or 2 scutes; occipital process short. Scutes spinulose, not carinate, 26 in a longitudinal series, 6 or 7 between dorsal and adipose fin, 12 between anal and caudal. Lower surface of head naked except for a granular patch in front of each gill-opening; abdomen nearly completely covered with granular scales except for a naked area in front of each ventral fin. Dorsal I 7, the first ray a little shorter than the head, when laid back extending to the second or third scute behind the last ray, which is  $\frac{1}{2}$  as long as the first. Length of base of dorsal equal to its distance from the middle of the spine of adipose fin. Anal I 4. Pectoral spine extending

to anterior  $\frac{1}{3}$  of ventral fin. Caudal emarginate, the middle rays less than  $\frac{2}{3}$  as long as the longest. Caudal peduncle  $2\frac{3}{4}$  as long as deep. Posterior part of head with undulating stripes; dorsal fin with the posterior part of each interradial membrane dusky.

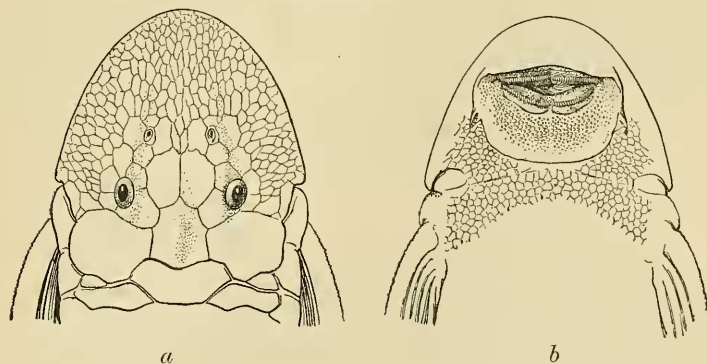
*Hab.* Rio Piracicaba, San Paulo, Brazil.

Two specimens, 150 and 200 mm. in total length, received from Dr. R. von Ihering.

*PLECOSTOMUS ALBOPUNCTATUS*, sp. n. (Plate XLIX. fig. 1.)

Depth of body  $5\frac{1}{2}$  to 6 in the length, length of head 3 to  $3\frac{1}{4}$ . Depth of head 2 in its length, breadth of head  $1\frac{1}{10}$ , length of snout  $1\frac{3}{5}$  to  $1\frac{2}{5}$ , diameter of eye 9 to 10, interorbital width 3 to  $3\frac{1}{5}$ . Length of mandibular ramus  $1\frac{1}{2}$  to  $1\frac{3}{4}$  in the interorbital width; 26 to 32 teeth on each side in the upper jaw, 22 to 26 in the lower. Barbel very short. Snout broad, rounded; supra-orbital edges not or scarcely raised; temporal plates not keeled; supraoccipital slightly convex, without median ridge, bordered posteriorly by a single scute; occipital process short. Scutes spinulose, not carinate, 26 in a longitudinal series, 6 or 7 between

Text-fig. 206.



*Plecostomus albopunctatus.*

Head seen from above (a) and below (b).

dorsal and adipose fin, 12 between anal and caudal. Lower surface of head and abdomen almost completely covered with small granular scales. Dorsal I 7, the first ray  $\frac{2}{3}$  to more than  $\frac{2}{3}$  the length of head, when laid back extending just beyond the base of the last ray, which is  $\frac{2}{3}$  as long as the first. Length of base of dorsal equal to its distance from the posterior part of spine of adipose fin. Anal I 4. Pectoral spine extending to base of ventral fin. Caudal slightly emarginate, the median rays  $\frac{2}{3}$  as long as the longest. Caudal peduncle  $2\frac{1}{2}$  as long as deep. Small rounded whitish spots on head and body and on the rays of

the fins; fins dusky, the posterior half of each interradial membrane of the dorsal darker than the rest.

*Hab.* Rio Piracicaba, San Paulo, Brazil.

Two specimens, 170 and 220 mm. in total length, received from Dr. R. von Ihering.

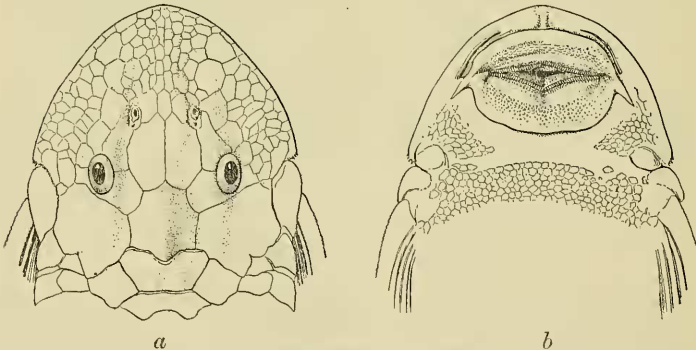
PLECOSTOMUS GOYAZENSIS, sp. n.

*Plecostomus latirostris* (part.) Regan, Trans. Zool. Soc. xvii. 1904, p. 213.

Depth of body 5 in the length, length of head  $3\frac{1}{3}$ . Depth of head  $1\frac{2}{5}$  in its length, breadth of head 1, length of snout  $1\frac{3}{4}$ , diameter of eye 7, interorbital width  $2\frac{3}{5}$ . Length of mandibular ramus  $1\frac{4}{5}$  in the interorbital width; 28 teeth on each side in both jaws; barbel  $\frac{3}{5}$  the diameter of eye. Snout broad, rounded; supraorbital edges slightly raised; supraoccipital with median ridge, bordered posteriorly by a single scute; temporal plates not distinctly keeled. Scutes spinulose, the upper and anterior ones very weakly keeled, 27 in a longitudinal series, 6 between dorsal and adipose fin, 13 between anal and caudal. Lower surface of head and abdomen nearly completely covered with small granular scales. Dorsal I 7; length of base equal to the distance from tip of spine of adipose fin. Anal I 4. Pectoral spine extending to anterior  $\frac{1}{3}$  of ventral. Caudal emarginate. Caudal peduncle 3 times as long as deep. Uniformly brownish (in spirit).

*Hab.* Goyaz.

Text-fig. 207.



*Plecostomus goyazensis.*

Head seen from above (a) and below (b).

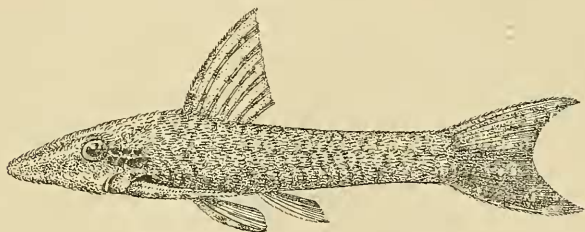
A single specimen, 260 mm. in total length, received in 1889 from the Museum of Comparative Zoology, Cambridge, Mass., U.S.A.

*P. latirostris* is distinguished by the more slender and more numerous teeth and by the shorter caudal peduncle.

*Otocinclus paulinus*, sp. n.

Depth of body 5 in the length, length of head  $2\frac{1}{5}$ . Diameter of eye  $7\frac{1}{2}$  in the length of head, interorbital width  $2\frac{2}{5}$ , length of snout  $2\frac{2}{5}$ . Occipital region evenly convex, without crests. Scutes spinulose, not carinate, 22 in a longitudinal series. Lower surface of head with a naked area in front of the clavicles; abdomen posteriorly with numerous small plates, anteriorly naked except

Text-fig. 208.

*Otocinclus paulinus* ( $\times 2$ ).

for a series of plates on each side. Dorsal I 7; origin above the base of ventral; no adipose fin. Anal I 4. Pectoral spine extending beyond middle of ventral. Caudal emarginate. Caudal peduncle 3 times as long as deep. Caudal blackish, except the posterior half of the upper lobe, which is pale with dark spots; other fins pale with series of dark spots.

*Hab.* Rio Piracicaba, San Paulo, Brazil.

A single specimen, 35 mm. in total length, received from Dr. R. von Ihering.

*ARGES HETERODON*, sp. n. (Plate XLIX. fig. 2.)

Length of head 4 in the length of the fish. Nasal flap produced into a short barbel. Interocular width equal to the distance from eye to posterior nostril and 3 in the length of head. Width of mouth  $\frac{1}{2}$  the length of head; outer series of teeth in the præmaxillaries unicuspid, more or less compressed, expanded and truncated; mandibular teeth acutely bicuspid; barbel just reaching the gill-opening. Dorsal I 6; first ray produced, longer than the head; adipose fin elongate, strongly developed, without trace of a spine. Pectoral spine probably produced and extending beyond the middle of ventral (broken off on each side); ventrals longer than the head, originating a little in advance of the origin of dorsal, extending nearly to the vent, which is situated at more than  $\frac{4}{5}$  of the distance from the base of the ventrals to the origin of the anal. Anal I 6. Distance from tip of snout to origin of dorsal  $2\frac{1}{2}$  in the length of the fish, from base of last anal ray to that of the caudal  $5\frac{1}{2}$ . Greyish, spotted and marbled with blackish; vertical fins with series of blackish spots.

*Hab.* Jimenez, Western Colombia.

A single specimen, 110 mm. in total length, collected by Mr. Palmer.

This species is allied to *A. longifilis* Sldr., from Peru, which is known to me only from Steindachner's description and figures, but which is separated at least by the smaller mouth, longer caudal peduncle, and different coloration. The teeth in the upper jaw in *A. heterodon* approximate in form to the incisor-like teeth of *Arges peruanus* and *A. simonsii*.

ARGES RETROPINNA, sp. n. (Plate XLVIII. fig. 2.)

Length of head  $3\frac{1}{3}$  to  $3\frac{1}{2}$  in the length of the fish. Interocular width less than the distance from eye to posterior nostril, nearly 4 in the length of head. Width of mouth a little more than  $\frac{1}{3}$  the length of head; outer series of teeth of the premaxillaries unicuspid, acute; mandibulary teeth bicuspid; barbel extending not more than  $\frac{1}{2}$  of the distance from its base to the gill-opening. Dorsal I 6; first ray not produced,  $\frac{1}{2}$  or a little more than  $\frac{1}{2}$  the length of head; adipose fin with a well-developed movable spine, which is inserted at a distance from the caudal equal to  $\frac{1}{2}$  the length of the middle rays of the latter. Pectoral spine not produced, but extending to middle of ventral; ventrals originating well in advance of the dorsal, not reaching the vent, which is situated at  $\frac{4}{5}$  of the distance from base of ventral to origin of anal. Anal I 6. Distance from tip of snout to origin of dorsal  $2\frac{1}{6}$  to  $2\frac{1}{4}$  in the length of the fish, from base of last ray of anal to that of the caudal  $7\frac{1}{2}$ . Greyish, clouded with darker and with some small pale spots; dorsal, anal, and pectoral with a series of dark spots; pectoral dark at the base; caudal blackish at the base and also posteriorly.

*Hab.* Jimenez, Western Colombia.

Two specimens (♀), 55 and 65 mm. in total length, collected by Mr. Palmer.

This species is allied to *A. homodon* Rgn. and *A. boulengeri* Rgn., but is easily distinguished by the smaller and more posteriorly placed dorsal fin, shorter barbels, shorter caudal peduncle, &c.

EXPLANATION OF THE PLATES.

PLATE XLVII.

- Fig. 1. *Plecostomus iheringii*.  
2. *Plecostomus margaritifer*.

PLATE XLVIII.

- Fig. 1. *Plecostomus strigaticeps*.  
2. *Arges retropinna*. 2 a. Head seen from above. 2 b. Head seen from below. 2 c. Teeth.

PLATE XLIX.

- Fig. 1. *Plecostomus albopunctatus*.  
2. *Arges heterodon*. 2 a. Head seen from below. 2 b. Teeth.